

What is claimed is:

1. Apparatus for installing a workpiece at a location underneath a surface comprising:

(60 guiding frame) "F" fig. 1
(see upper portion of track member)
an elongate track member having a first end positionable proximate said surface and a second end positionable distal said surface;

¹¹⁴
a carriage mounted on said track member for reciprocal movement therealong;

¹⁵⁰
a hammer assembly mounted on said carriage and having a hammer head reciprocally movable relative to said carriage in a direction toward and away from said first end of said track member;

an operator to effect reciprocation of said hammer head; and
^{a hydraulic 142}
an actuator to compressively urge said carriage toward said first end of said track member.

2. The apparatus of Claim 1 wherein said hammer head is percussively operated. [Col. 4, line 51]

3. The apparatus of Claim 1 wherein said hammer assembly comprises a hydraulic hammer. [140]

4. The apparatus of Claim 1 wherein said hammer assembly includes a housing and said housing is keyed to said carriage.

OK for 1/23/31
1/23/31
3/12/03

FOOTNOTES

5. The apparatus of Claim 1 wherein said actuator is a hydraulic actuator. 142

6. The apparatus of Claim 5, wherein said actuator comprises at least one hydraulic cylinder/piston assembly, one of said cylinder or said piston rod being
5 attached to said carriage, the other of said cylinder or said piston rod being attached to said track member. 140

7. The apparatus of Claim 1 includes a support attached to said track member to hold said track member in a predetermined position. ^{as shown in} fig. 1

8. The apparatus of Claim 7, wherein said support is operable to vary the
10 ^{altitude} ^{obj} attitude of said track member relative to said surface.

9. The apparatus of Claim 1, wherein said first end of said track member is attached to a footer. ^{bb}

10. The apparatus of Claim 9, wherein said track member is pivotable relative to said footer. ^{4925,159} ^{30 pivotable}